

ABSTRACT

A process of production for producing a high strength galvanized steel sheet by a hot-dip galvanized steel sheet production equipment using an all radiant tube type annealing furnace and a production equipment for the same are provided, comprising continuously hot-dip galvanizing a high strength steel sheet having a content of Si of 0.4 to 2.0 wt% during which making the atmosphere of the reducing zone an atmosphere containing H_2 to 1 to 60 wt% and comprised of the balance of N_2 , H_2O , O_2 , CO_2 , CO , and unavoidable impurities, controlling the $\log(PCO_2/PH_2)$ of the carbon dioxide partial pressure and hydrogen partial pressure in the atmosphere to $\log(PCO_2/PH_2) \leq -0.5$ and the $\log(PCO_2/PH_2)$ of the water partial pressure and hydrogen partial pressure to $\log(PH_2O/PH_2) \leq -0.5$, and controlling the $\log(P_T/PH_2)$ of the total partial pressure P_T of the carbon dioxide partial pressure PCO_2 and water partial pressure PH_2O and the hydrogen partial pressure to $-3 \leq \log(P_T/PH_2) \leq -0.5$.